DOCUMENT RESUME

ED 333 818 HE 024 666

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TITLE Invited Testimony of Dr. Robert A. Scott, President, Ramapo College of New Jersey to : The House Subcommittee on Postsecondary Education of the Committee on Education and Labor, U.S. House of Representatives. Subcommittee Hearings on the Reauthorization of the Higher Education Act.
PUB DATE 21 Jun 91
NOTE 23p.
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Economic Development; Educational Change; Educational Facilities Improvement; *Educational Finance; Educational Legislation; *Federal Aid; Federal Legislation; *Financial Policy; Government Role; Graduate Study; Grants; *Higher Education; *Politics of Education; Private Colleges; Public Colleges; Student Employment; Student Loan Programs; Undergraduate Study
IDENTIFIERS *Higher Education Act 1980

ABSTRACT

There are cries for institutions of higher education to control ambition, contain costs, constrain tuition increases, and make the curriculum more responsive to societal needs. Due to competition in other areas for public monies, it would seem that public funding for higher education must remain limited. However, economic growth, national competitiveness and the supply of faculty and scholars are connected, and colleges and universities can contribute toward these goals by increasing and strengthening school-college partnerships, giving better attention to undergraduate teaching and learning by full-time faculty, making better connections between undergraduate and graduate education, and restructuring graduate education in order to increase certainty in the length of Ph.D. programs. The Federal Government has a role to play in these initiatives. In particular, federal assistance is needed in the following areas: in student aid making higher education accessible, in student employment and pre-college intervention which reinforce classroom learning, in developing undergraduate instruction with a common vision which prepares students for an interdependent and multicultural world, in facilities development (debts for repair or construction often directly raise tuition), and in rethinking methods for tuition financing. (22 references) (JB)

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Invited Testimony
of
Dr. Robert A. Scott, President
Ramapo College of New Jersey

The House Subcommittee on Postsecondary Education
of the
Committee on Education and Labor
U.S. House of Representatives,
The Honorable William D. Ford, Chairman

Subcommittee hearings on the Reauthorization of
the Higher Education Act

Friday, June 21, 1991, 9:30 a.m.
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Introduction

Mr. Chairman, the Honorable Donald Payne; Congresswoman Roukema, Congressman Andrews, I am Dr. Robert Scott, president of Ramapo College of New Jersey. Thank you for this honor, and thank you for the excellent programs you have created. Our students appreciate your support.

Your charge is to hear comments on the Higher Education Act and to make recommendations to your colleagues in Congress. In response to your invitation, I will comment on the calls for reform in higher education; the relationship between higher education and economic competitiveness; and the federal role in higher education. I hope these observations will help illuminate the broader context within which your policies and programs work.

Calls for Reform

The cries for reform in higher education come from every quarter: the National Governors' Association, the Carnegie Foundation for the Advancement of Teaching, blue ribbon panels convened by individual campuses, boards of trustees and presidents, faculty governance bodies and others. Even the U.S. Congress--you and your colleagues--wants to review higher education. The common cry is for institutions to control ambition, contain costs, constrain tuition increases, and make the curriculum more responsive to societal needs.[1]

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[1] "Learning the Lessons of Cost Containment: A New Imperative for Higher Education." *Change*, November/December 1990; "Congress to Debate Major Ed Issues," *Higher Education and National Affairs*, January 14, 1991, p.2; De Loughry, Thomas J. "New Congress Plans to Ask Colleges Tough Questions," *The Chronicle of Higher Education*, January 16, 1991, p. A1.

Strong measures are needed, of that we are certain. The national economy is undergoing fundamental changes that have resulted in changing patterns of federal and state assistance to students and institutions, and these changes in turn have affected family decisions about enrollment and contributions. For these reasons, institutional leaders must make basic changes in expenditure patterns and learn to live with reduced, and more closely monitored, levels of revenue from traditional sources. But in "controlling" ambition and "containing" costs, higher education must not lose sight of basic educational goals and the reforms needed.

The need for change is indisputable. Higher education is known for its ability to add programs and new dimensions to an institution's mission without curtailing or canceling programs of lower priority and lesser demand.[2] To keep up with salary, equipment and debt expenses, tuition increases have outpaced inflation. While it is true that tuition increases are needed when other sources of revenue are weak, especially to maintain competitive salaries for faculty and staff, the public takes another view. We in higher education know that faculty salaries have not kept pace with inflation. Between 1970 and the mid-1980s, faculty salaries in real dollars declined by 18.7% compared to a 15.5% increase in disposable personal income per capita in the U.S.[3] But to the public, faculty salaries are still nearly three times that of per capita median income.[4] The public hears of an apparently endless appetite for revenue and about faculty who teach one course a year--to graduate students; teaching assistants with little command of English; athletic scandals, and graduates who can't read. Is

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[2] *1989-90 Fact Book on Higher Education.* American Council on Education/Macmillan Series on Higher Education, New York, 1989, pages 68 and 157.

[3] Bowen, William G., and Julie Ann Sosa. *Prospects for Faculty in the Arts and Sciences*. Princeton University Press, 1989, p. 146.

[4] *1989-90 Fact Book*, p. 42.

it any wonder the public asks questions about the expense and accountability of higher education?

Competition for Public Support

The public has also reacted to state and federal tax changes and expenditures which affect everyone's pocketbook. Higher education may have an emotional claim on some state support, but new claims on the public purse are more urgent. Medicaid outlays increased by 18% in 1990, after years of increase at 12-15%. The number on welfare rolls equals the number of students enrolled in higher education, and is nearly four times the number on welfare in 1960. The average monthly grant per welfare recipient more than doubled from 1970 to 1990. However, states have been able to generate only enough matching money to qualify for 65% of the $800 million in federal funds available to pursue welfare reforms.[5]

Spending on prisons nearly doubled during the period 1980-1990, with the cost borne almost entirely by state and local governments. From 1986-1990, corrections spending grew at an average annual rate of 13%, absorbing much of the growth in state revenues. "The nation's overcrowded prisons and jails hold over one million inmates and the population is increasing at the rate of 2,650 per week, or enough to fill five average-sized prisons...Housing each inmate in new prisons costs up to $25,000 a year."[6] All of this is happening during a time when, according to a federal study, the number of reported violent crimes rose almost 20 percent. The increase in prison costs directly reflects a shift in public attitudes away from

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[5] "Legacy of 80's for States and Cities: Big Bills and Few Options." *The New York Times*, December 30, 1990, p. 16.

[6] *Ibid.*, p. 17.

rehabilitation toward punishment, an increase in mandatory sentences, and a broadening of the definition of criminal activity to include more offenses.[7]

Elementary and secondary education are the other big areas of state spending. The states' share of total spending on these levels of education increased from 40% in 1970 to 50% in 1990, as the burden shifted from local governments to state government. This shift resulted from lawsuits challenging the primary reliance on the property tax; declining federal assistance; and accelerated efforts to improve schools, raise curriculum standards and improve teachers' salaries.[8] During the past decade, state spending on higher education declined even while state spending on elementary and secondary education increased as a percentage of personal income. Health and hospitals, Medicaid, corrections, and environmental clean-up costs all increased dramatically during this period.[9]

There appears to be no end in sight to these major shifts in state and federal expenditure patterns. Indeed, when one adds in the millions of Americans addicted to drugs and alcohol, who cost our economy some $62 billion a year; school dropouts who incur costs of billions more in welfare support and remedial training; the state and federal obligations required to assist the 33 million people who live in poverty and the 27 million functional illiterates in the United States who cost an estimated $25 billion a year in services and lost productivity, and the needs of those afflicted with AIDS, the total is enormous. Furthermore, the amount needed to repair the basic infrastructure of roads, bridges, and sewers, whose maintenance has been neglected, is immense.[10] The costs of health, prisons, the environment,

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[7] *Ibid.*

[8] *Ibid.*

[9] *Ibid.*

[10] Bowen and Sosa, p. 26.

elementary and secondary education, the infrastructure, the "Gulf war" and the deposit insurance bailout are all considered mandatory expenditures, with higher education considered discretionary. On top of this, some states, including New Jersey, have adopted laws which impose caps on public spending.

It is for these reasons that higher education must change and the cries for reform--to control ambition, contain costs, and constrain tuition--seem reasonable to the public. Public funds for higher education will remain limited, unless the problems enumerated above are addressed. But these cries for reform lack vision. Our institutions of higher education, especially those responsible for graduate education, have yet to express a vision for pure and strategic research that will help correct these ills of society.

Higher Education and Economic Development

In setting our goals for reform, we must keep in mind a longer term strategic vision of higher education's role. We must remember that the nation's colleges-and universities play an increasingly important role in assisting social stability, economic growth, and national competitiveness, as well as in contributing to the quality of our collective lives. In addition, higher education has a major obligation to prepare future generations of scholars and teachers, who will serve as role models for the next generation of young people as well as those who embark on mid-career changes, and current projections are not promising. The share of the U.S. GNP spent on research and development (or pure and strategic research) declined to 1.3% from 2.1% between 1967 and 1987. Federal grants for research facilities have declined by 95% since the 1960s, and federal graduate fellowships and traineeships

have dropped by 25%. Yet, historical studies have shown that the "annual social rate of return on investment in academic research is no less than 28 percent."[11]

At present, 50% or more of Ph.D. candidates come from abroad, in part reflecting inadequate U.S. instruction from elementary school through college and cultural differences in the support of education.[12] The number of doctorates earned by non-residents each year increased 1000% in the past thirty years.[13] The good news is that many of these foreign students stay in the U.S. and become productive citizens. The percentage of American college and university freshmen expressing interest in pursuing graduate education at the Ph.D. level has been nearly stable during the past decade, but the proportion expressing interest in careers as research scientists has declined steadily. And while the proportion of women aspiring for and attaining doctoral degrees has increased significantly, the share entering college teaching declined between 1978 and 1988, and they are still underrepresented in the natural sciences, mathematics, and engineering.[14]

At a time when it is a widely-held maxim that economic growth and national competitiveness rely on technological developments and the application of science to the solution of social and economic problems, it is imperative that colleges and universities keep their sights on long-term and strategic issues, and not simply on temporary cost containment measures, as

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[11] Bok, Derek. *Universities and the Future of America.* Durham and London: Duke University Press, 1990. p. 1; Lederman, Leon M. "Science: The End of the Frontier?" *Science,* January 1991, p. 13.

[12] "Graduate Schools Fill With Foreigners." *The New York Times*, November 29, 1990, p. A24.

[13] Bok, p. 91.

[14] *1989-90 Fact Book*, p. 193; "Women PhDs are eschewing academic careers, says study," *AGB Reports*, November/December 1990, p. 4.

essential as these are. When one adds the projected need for recruiting additional college and university faculty over the next decade and one-half, it becomes imperative that the nation's institutions of higher education think seriously about graduate enrollments.

These three strategic issues of economic growth, national competitiveness, and the supply of faculty and scholars, are connected. All three are related to the ways in which we address undergraduate education and the connections between undergraduate education and graduate training.

Strategic Reform

From 1977 to 1982 the National Science Foundation projected future science and engineering professionals on the basis of drop-out patterns throughout their schooling. There were 4 million high school sophomores in American high schools in 1977, of whom 730,000 claimed at that time to be "interested" in studying science and engineering. But of these a mere 9,700 or less than one-quarter of one percent of the original population were expected to achieve the Ph.D. degree in one of the sciences or engineering.[15] Forty percent would drop out of science after the freshman year; another 40% would leave science and engineering majors by the end of the senior year. Of the remainder, only 61,000 (or 30% of the 206,000 graduates) would have gone on to graduate school in science and engineering, with only 9,700 actually completing the Ph.D.[16]

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[15] Tobias, Sheila. "Why Universities Lose Talent for Science," *Change*, July/August 1990, p. 15.

[16] *Ibid.*

There are four major steps which colleges and universities can take to contribute toward national competitiveness, economic growth, and preparation of future faculty. The first is to increase and strengthen school-college partnerships. The second is to give better attention to undergraduate teaching and learning by full-time faculty. The third is to make better connections between undergraduate and graduate education, with an emphasis on raising student aspirations. The fourth is to restructure graduate education in order to increase certainty in the length of Ph.D. programs. The federal government has a role to play in these initiatives.

School-College Partnerships

Many colleges engage in partnership programs with secondary schools. In these partnerships, a team of college faculty and staff, and sometimes students as well, work with high school teachers and students to raise student aspirations for attending school, achieving in academic subjects, and graduating from high school. The college team may offer tutoring, subject-matter demonstrations, and leadership training exercises at the school, at the college, or via interactive computer networks. These weekly interactions during the school day or Saturday are designed to reinforce and strengthen family and teacher expectations. High school students may stay in residence at the college during a week or more in the summer. The summer program may emphasize study skills, career options, the relationship between academic subjects and career choice, and practical subjects such as applying for financial aid.

While there are many examples of successful partnerships, there are still few colleges and schools involved, and still fewer programs of early intervention which start in middle school or the later years of elementary school. In order to help young people overcome the negative

influences of neighborhoods and develop self-confidence as students, these partnership programs should start in the earliest grades. In addition, more students at each grade level should be included. Each partnership effort should involve enough students to form a "critical mass" and become a positive influence on the entire school and community. Unfortunately, many college leaders do not think it is their responsibility to be concerned with elementary and secondary school students and teachers. They do not think of schooling at all levels as "all one system."[17]

Improving Undergraduate Education

The second strategic reform for long-term improvement in higher education as well as enhanced contribution to national competitiveness and economic growth is to increase the attention given by full-time faculty to undergraduate education. The profile of instruction at the freshman and sophomore level is all too familiar. At our large public and private research universities, lecture halls with hundreds of students and discussion sections led by graduate teaching assistants are common. Basic skills, English composition, quantitative methods, and other introductory courses are all too often taught by part-time instructors who are neither graduate students on a teaching fellowship nor specialists engaged to teach at an advanced level. They are instead part of the army of "per-course" teachers who are undersupported and underpaid. It is not uncommon to find that nearly 40% of course

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[17] Hodgkinson, H. L. *All One System: Demographics of Education, Kindergarten Through Graduate School*. Washington, D.C.: Institute for Educational Leadership, 1985.

sections are taught by this cadre of teachers who are treated by institutions as "second-class" faculty.[18]

Student advising is an important component of teaching, and all too often colleges and universities rely upon professional staff instead of faculty to provide those necessary conversations about learning and the excitement of discovery which lead to an elevation of student aspirations. How can we expect faculty to raise student aspirations when the critical responsibilities for teaching and advising are delegated to others? Students need faculty role models; they need to see the excitement of a scholar introducing others to his or her field.[19] The success of elite private liberal arts colleges in encouraging and preparing undergraduates for graduate education is instructive, especially the private liberal arts colleges which have such a remarkable record of alumni attaining the Ph.D. The common belief is that there is a direct relationship between this record of success and the commitment to teaching and advising as well as to scholarship of those who teach at these institutions.

This is not to denigrate the work of dedicated advisors and counselors. They provided needed services. The question is why have faculty in the United States abrogated their responsibility for advising?

Two forces in higher education's development have resulted in major changes in the way basic academic and student support services are offered. First, with faculty attention

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[18] "Research and Teaching: an Excerpt From Cheney Report on 'Educational Practices Gone Wrong,'" *The Chronicle of Higher Education*, November 14, 1990, p. A24; Wilson, Robin. "Undergraduates at Large Universities Found to Be Increasingly Dissatisfied," *The Chronicle of Higher Education*, January 9, 1991, p. A1.

[19] Mooney, Carolyn J. "The Dissertation Is Still a Valuable Requirement, Survey Finds, but Graduate Students Say They Need Better Faculty Advising," *The Chronicle of Higher Education*, January 16, 1991, p. A15.

focussed on advanced undergraduate and graduate students, and on scholarship, a new corps of professional staff had to be recruited to provide advising, counseling and tutoring to freshmen and sophomores. Second, the expansion of opportunities for higher education in the interest of social equity opened the doors to many students with special needs, inadequate preparation, and new claims on services. There has been a concomitant expansion of middle-level administrators and professional staff to provide these and other services.[20]

It is now necessary to rethink the ways colleges and universities provide these services. First, more full-time faculty must take responsibility for teaching and advising first and second year students, if only to inspire more students to value education and to consider graduate study and scientific careers. Second, if colleges and universities are to contain costs without weakening instructional quality further, then administrative overhead must be examined carefully, reduced, and monitored continuously. Third, students can be excellent advisors and tutors, and these activities can strengthen student learning.

Granted, academic programs must be reviewed regularly, and those with lowest priority canceled. At Ramapo College, we have canceled five academic programs in five years, and reallocated resources to higher priority activities. We have also reduced the size of management, especially in the business office and the physical plant. Most colleges are undertaking these kinds of analysis. The area which has not been examined closely in American higher education is that of student and academic support services.

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[20] Scott, Robert A. *Lords, Squires and Yeomen: Collegiate Middle-Managers and Their Organizations*. Washington, D.C.: ERIC/AAHE Higher Education Research Report, 1978.

Advising, counseling, and tutoring services have been developed at most colleges and universities using what might be called a "retail" model. Each constituent group--educationally disadvantaged students, disabled students, international students, returning adult women, etc.--is provided with a "boutique;" a specialized salon for advising, counseling, and tutoring with its own director, clerical support and staff. This approach seems to serve students well. It meets their special needs directly, and relieves faculty of the responsibility for serving all students. This approach is also costly.

Imagine if a college or university used a medical metaphor instead of a retail model. Using the health "clinic" as a metaphor, one can imagine providing the necessary services of advising, counseling and tutoring to students without the administrative overhead of the "retail" model. Each clinic would be staffed by the appropriate specialists, but would have only one director and less clerical support than many separate offices. It would also require fewer specialists. One can also imagine a more active role for faculty and students as advisers using the clinic as a metaphor.

It is easy to rehearse the political reasons for developing student and academic support services according to constituent group. However, at a time when full-time faculty must give greater attention to the education of freshmen and sophomores, and when fundamental changes are needed in expenditure patterns, one must rethink organizational metaphors as well.

In addition to student and academic services, we must consider the compelling issues in undergraduate instruction. Clearly, the most important issue is that of general education and preparing students for an increasingly interdependent and multicultural world. This is an issue for every college graduate, as each will likely either supervise or be supervised by

someone of a different ethnic, national or gender group. While many may argue the merits of multicultural education approaches in their different forms, there can be no denying that managers and leaders must understand and appreciate the diverse backgrounds of those with whom they work. And this conclusion, in turn, has to influence the college curriculum and extracurriculum.

The Connections Between Undergraduate Education and Graduate Training

The third major reform concerns the relationship between undergraduate and graduate education. Higher education leaders such as Ernest L. Boyer and Harold Hodgkinson have often talked about education as "all one system," and the need to integrate its various steps. Much has been done to develop partnerships between high schools and colleges, and between two-year and four-year institutions. In many cases we have seen how to break down the artificial barriers between instruction at these different levels.

However, all too little has been attempted to break down similar barriers between the bachelor's and graduate degrees. There continue to be some bachelor of science-MD programs and some baccalaureate-dental programs, but all too few programs that help bright and successful undergraduates gain early access to graduate education and research. Similarly, there is too little encouragement for faculty to include undergraduates in research projects and publication. College administrators who value these experiences may offer prizes and other incentives for faculty to engage students in the wonders of discovery at the graduate level. The examples of this kind of encouragement at Bucknell, Colgate, and Ramapo demonstrate the value of this effort.

Other examples exist as well. Ramapo College and Rutgers University, with support from American-Cyanamid, American Home Products, and CIBA-GEIGY, sponsor an opportunity for students to accelerate the time needed for students to move from a bachelor's to a graduate degree in biology and chemistry. The potential for this arrangement exists in business, other professional studies, the humanities, and the social sciences.

There has been a long-standing bias in many graduate faculties about "nepotism" and inbreeding, which has discouraged their own undergraduate majors from pursuing a graduate degree at *alma mater*. I believe these new times require new thinking. Just as we concluded two decades ago that we needed to encourage more of our brightest college students to enroll in medical school by developing joint BS-MD programs, so also do I think in this period of predicted shortages in graduate education, and graduate students interested in science and college teaching, that we need to rethink the relationship between undergraduate and graduate enrollment, and increase the opportunities for student and faculty interchange between these levels.

The Reform of Graduate Education

The fourth major reform is that of graduate education itself. Ask a bright and inquisitive college junior or senior to consider doctoral study, and he or she is likely to reply: "I know that a law degree takes three years and an MD takes four years; how long will it take me to earn a Ph.D. in history or economics or chemistry?" The truth is that the answer varies by institution and by program. In some fields the median length of time between the bachelors

degree and the doctorate is more than a decade.[21] In some fields at elite institutions it is possible to earn a Ph.D. in less than two years. The problem in trying to encourage a student to consider the Ph.D. is the uncertainty about the length of time, which can easily translate into uncertainty about the benefits compared to the costs, both in terms of dollars and lost opportunities.

The reasons for this uncertainty are two-fold. First, doctoral education is most often under the direction of a single major advisor who may take a sabbatical leave, or receive a national appointment which requires frequent attendance at meetings off campus, etc. Another reason is economic. Far too many of our graduate students are funded by teaching assistantships so as to take the place of faculty in those freshman and sophomore classrooms.

The challenge then is two-fold: one part design and one part economic. Doctoral education is designed with the individual faculty advisor as the responsible administrative unit. This aspect of graduate education, as well as the great variety of standards for what passes as acceptable evidence of a student's ability to do independent research and to make a contribution to knowledge, have come under increasing scrutiny, and reform is underway. Advisors play a critical role in helping students select a manageable topic that demonstrates their ability and makes a contribution to scholarship; it should not be viewed as the major work of one's career.[22] An alternative would be to have a departmental or college

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[21] "Lengthening of Time to Earn a Doctorate Causes Concern," *The Chronicle of Higher Education*, March 15, 1989, p. 1; Bowen and Sosa, p. 174; *1989-90 Fact Book*, pp. 222-223.

[22] Mooney, p. A22.

perspective on responsibility so that the vagaries of an individual's schedule would not have such a major impact on the progress made by a graduate student.

Similarly, undergraduate tuition now pays for much of graduate education so that faculty can devote time to graduate education and research. Major shifts in the alignment and allocation of faculty time could have a dramatic increase on support for graduate students and the number of these students able to devote full time to their research projects and courses. Without such changes, why would a bright prospect seek a Ph.D. when there is so little certainty and so much opportunity cost? And without such changes, how will we recruit more minority students to pursue academic careers?

Summary

These strategic issues in higher education are not easy to answer, especially since funding for higher education is changing in radical ways. It could be that even with substantial improvements in the economy following the current recession, higher education will be a lower priority in overall state and federal budgets given the needs in elementary and secondary education, illiteracy, poverty, health, AIDS, corrections, alcohol and drug abuse, welfare, homelessness, transportation, the environment, and the whole array of social problems requiring attention. This will be true especially if graduate education and scholarship fail to establish a priority for supporting the pure and strategic research needed to address these problems.

Higher education has much to contribute to correcting these ills and addressing the challenges of national competitiveness, economic growth and development, and the preparation of future scholars and teachers. It is incumbent upon higher education to

develop strategies to accomplish these goals, even as it adopts new tactics to satisfy the immediate requirements of controlled ambitions, cost containment, and tuition constraints. But higher education cannot do this alone. The federal government has an historic role to play.

The Federal Role

Historically, the federal government--representing the collective national will--has turned to higher education as leverage for attaining a major national objective. The Northwest Ordinance assisted colleges in helping disperse the population. The Morrill Land Grant Act sponsored the development of scientific agriculture. The G.I. Bill helped members of the armed forces readjust to civilian life. The current student aid programs evolved from a national defense act concerned with critical national skills.

The need for this form of leverage continues--for social stability, economic development, and national competitiveness.

The higher education system of the United States is the envy of the world. Why else would more than 300,000 students from other countries come to study here each year? At Ramapo College alone, we have students from 52 countries. This is not to say our institutions are perfect. My earlier statement confirms we are not. But there is too much good in our system to allow "sound byte" editorials to distract us.

There are problems. Some types of schools have excessive student loan default rates. Some types of schools have incredibly low graduation rates. Some institutions have not used good judgment in calculating indirect costs to be charged to federal grants. But these

are isolated, identifiable instances which can be dealt with by specific action. No broad brush approach is needed.

Tuition rates are also seen as a "problem" by some. Yet in New Jersey, nearly 70% of tuition increases at public institutions are used to pay for salary and benefit increases negotiated by the state but then not funded by it. The remaining 30% of the increases is used to cover facilities repair and renovation, which is not funded by the state, improvements, student aid, and inflation.

Therefore, I urge you to focus your attention on the points of leverage available to you to support higher education's role in social stability, economic development, and national competitiveness. Please don't allow individual complaints to assume more importance than they deserve.

Recommendations

You have already received specific, technical recommendations for changes in federal programs. I fully endorse the recommendations presented by the American Council on Education and the American Association of State Colleges and Universities. Today, I wish to draw attention to five opportunities for policy development and leadership. Federal assistance in these areas will help strengthen the capacity of our colleges and universities to serve the nation. These five topics include student aid, student employment and pre-college intervention, undergraduate instruction, facilities, and tuition.

First, I recommend that federal student aid programs continue to be viewed as the cornerstone of a national priority for making higher education accessible, and for ensuring

that students have a wide choice of institutional types without regard to cost. However, I also recommend that student financial aid be awarded to students in such a way that freshmen and sophomores are not obligated to assume loans and indebtedness, and that juniors and seniors work on campus in jobs of substance. By reducing the reliance on loans for first-year students, I believe we will make higher education more accessible to talented students from lower income families. We also will reduce the default rate. With less debt, students are also more likely to consider teaching or graduate study, and less likely to allow money to determine career decisions.

Second, by encouraging the creation of jobs of substance on campus, we will help students reinforce their learning by doing. I am especially impressed by the success of students in tutoring others, supervising computer labs, and helping younger students in the library. These activities not only help students earn part of their college expenses, but also they reinforce classroom learning. With increased support of College Work-Study and Cooperative Education, our students can also work more extensively in our pre-college partnerships with schools, community service, and "literacy" programs. Aspirations for achievement and graduation rates both increase when students help students, and work with teachers in responsible roles.

Increased support of graduate student aid programs will help in recruiting more students to doctoral study and careers in college teaching. Increased student aid is an essential component to bringing greater certainty to the length of doctoral study, especially writing the dissertation. Given the relationships between graduate education and research, knowledge creation, and national competitiveness, this support should be growing.

Third, undergraduate education must have a common vision. While institutions must certainly be free to develop their missions and programs according to local traditions, all undergraduates must be prepared for living as citizens in an increasingly interdependent and multicultural world. Strong support for international education programs will assist colleges in shaping this vision and in developing the new courses and opportunities for students and faculty. In this regard, student financial aid should be applicable toward study out of the country as well as in off-campus internships.

Fourth, academic facilities are in need of renovation and reconstruction. In many cases, new construction is needed, especially for libraries, laboratories and student housing.

There is a clear link between tuition increases and debt service at many campuses. If states such as New Jersey cannot provide adequate support for facilities, then tuition must be the answer. This then affects the need for financial aid. Increased federal support for academic facilities will reduce this pressure on student aid and serve as a positive force for economic development. One-time federal initiatives in support of academic facilities can have a long-term dampening effect on the need for student aid increases. The opportunities for leverage here are enormous.

Finally, we must rethink tuition or we could endanger the entire private sector of higher education. Public institutions need a strong private sector. While each sector benefits from the strengths of the other, I draw particular attention to the role of independent institutions in establishing and maintaining standards of academic freedom and excellence. These standards in turn help protect public institutions from governmental interference or indifference.

But our independent institutions are threatened by public perceptions that tuition is too high. I believe the federal government has an opportunity to help middle-income families have a choice of private or public colleges and universities by helping families treat tuition as a capital expense. The benefits of higher education last a lifetime. Why not pay for it over 30 years, as we do our mortgage, instead of in four to ten years? Your Subcommittee has an opportunity to help higher education leaders rethink the methods of financing college education. This, in turn, will have a significant impact on supporting student choice and strengthening the ability of our higher education system to serve the nation.

Conclusion

For more than two hundred years, the federal government has turned to higher education for leverage in solving significant national issues. Today, we have a new opportunity. With your strong support, our colleges and universities can do even more to ensure social stability, economic development, and national competitiveness.

Thank you.